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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,866	06/14/2000	Masaki Katayama	P/2171-184	8166

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EXAMINER

LAO, LUN S

ART UNIT PAPER NUMBER

2643

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/593,866

Applicant(s)

KATAYAMA ET AL.

Examiner

Lun-See Lao

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-10, 12-16 and 18-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12-16 and 18-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2643

DETAILED ACTION

Introduction

1 This action is response to the amendment filed on 03-25-2004. Claims 4, 11, and 17 have been cancelled; claims 20, 24 and 28 have been amended. Claims 1-31 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 5-9, 12-15 and 18-19, 20-22, 24-26, 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson (US PAT. 5,812,688) in view of Lowe (US PAT. 5,208,860).

Consider claim 1 Gibson teaches an audio system, comprising:

image display (see figs. 4-15) for displaying image data beforehand set respectively to a plurality of types of parameters to determine acoustic characteristics and values of the parameters, corresponding to values of the parameters (see col. 6 lines 1-42),

wherein the parameter is capable of being designated through the operator display and

wherein the image display variably displays image data depending on the value of the

parameter reflecting the distance characteristic parameter designated through the operator display (see col.5 lines 8-56). But Gibson does not clearly teach an operator display for displaying, for each of the parameter types, a parameter operator to indicate a value of a parameter reflecting a distance characteristic parameter to determine an acoustic characteristic obtained by distance between a listener and a sound source.

However, Lowe teaches an operator display for displaying (see figs 9-12), for each of the parameter types, a parameter operator to indicate a value of a parameter reflecting a distance characteristic parameter to determine an acoustic characteristic obtained by distance between a listener and a sound source (see figs. 5m, 9-12 and 15 and see col.5 line 19 -col.6 line 22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gibson into Lowe to provide a method and apparatus for processing an audio signal so that when it is reproduced over two audio transducer the apparent location of the sound source can be suitably controlled, so that it seems to the listener that the location of the sound source is separated from the location of the transducers or speaker.

Consider claim 8, there is the method claim corresponding to system claim1. See previous system claim 1 rejection.

Consider claim 14, there is the program claim corresponding to system claim1. See previous system claim 1 rejection.

Consider claim 2, Gibson teaches an audio system of the image display (see figs 4-15) reads out image data corresponding to the value of the parameter indicated by the parameter operator and displays an image according to the image data (see col.5 lines 7-56).

Consider claim 9, there is the method claim corresponding to system claim2. See previous system claim 2 rejection.

Consider claim 15, there is the program claim corresponding to system claim2. See previous system claim 2 rejection.

Consider claims 5-7, Gibson teaches an audio system of the parameter operator indicates (see figs. 4-15), when assigning an effect to sound, a value of an effect quantity characteristic parameter to determine an acoustic characteristic obtained by a level of the effect to be assigned (see col.5 line 8-56); and

the image display displays (see figs. 4-15) image data in which the level of the effect assigned to sound is imaged corresponding to the value indicated for the effect quantity characteristic parameter (see col.6 line 1-60); and

the image display (see figs. 4-15) stores a shade corresponding to each value of the effect quantity characteristic parameter and sets the shade of the image data to a shade corresponding to the value indicated for the effect quantity characteristic parameter (see col.6 line 1-66) and the image display (see figs 4-15) and

the operator display (figs. 4-15) includes an information processing terminal including a display (see fig.2, 58 and col.4 line 43-53).

Consider claims 12-13, there are the method claims corresponding to system claims 5-6. Thus note claims 12-13 respectively, for rejection.

Consider claims 18-19, there are the program claims corresponding to system claims 5-6. Thus note claims 18-19 respectively, for rejection.

Consider claim 24, Glibson teaches an audio system, comprising:

a display (see figs. 4-15) for displaying at least a first image of a parameter among a plurality of types of parameters to determine acoustic characteristics and a second image of an object (such as speakers and spheres);

a setting device which sets (see figs. 4-15) a value of the parameter by operating the first image; and

a controller (see fig. 2, 54, 52) which visually controls a size of the second image of the object corresponding to the value of the parameter (see col. 5 lines 5-56); but Glibson does not clearly teach the parameter is indicative of a distance between the object and a listener.

However, Lowe teaches the parameter is indicative of a distance between the object and a listener (see figs. 5m, 9-12 and 15 and see col. 5 line 19 -col. 6 line 22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gibson into Lowe to provide a method and apparatus for processing an audio signal so that when it is reproduced over two audio transducer the apparent location of the sound source can be suitably controlled, so that it seems to the listener that the location of the sound source is separated from the location of the transducers or speaker.

Consider claims 25-26 and 29-30, Gibson teaches an audio system of the second image of the object is an image of a sound source (see figs. 4-15 such as speaker and spheres); and an audio system of the sound source is a musical instrument (see col.5 line 56-col.6 line 41).

Consider claims 20-22, there are the method claims corresponding to system claims 24-26. Thus note claims 20-22 respectively, for rejection.

Consider claim 28, Gibson teaches an audio system comprising:

a computer for displaying (see figs. 4-15) at least a first image of a parameter among a plurality of types of parameters to determine acoustic characteristics and a second image of an object (such as speakers and spheres), a value of the parameter being set by operating the first image, and a size of the second image of the object being changed depending on the value of the parameter (see col.5 line 8-56); and

a receiver receiving the value of the parameter set by the computer and executing acoustic processing according to the value of the parameter (see col.4 lines 5-58); but Gibson does not clearly teach the parameter is indicative of a distance between the object and a listener.

However, Lowe teaches the parameter is indicative of a distance between the object and a listener (see figs. 5m, 9-12 and 15 and see col.5 line 19 -col.6 line 22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gibson into Lowe to provide a method and apparatus for processing an audio signal so that when it is reproduced over two audio transducer the apparent location of the sound source can be suitably

controlled, so that it seems to the listener that the location of the sound source is separated from the location of the transducers or speaker.

4. Claims 23, 27 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson (US PAT.5,812,688) as modified by Lowe (US PAT. 5,208,860) as applied to claim 1, above, and further in view of Ashour (US PAT. 6,459,797).

Consider claims 27 and 31, Gibson and Lowe fail to teach an audio system of the musical instrument is a piano.

However, Ashour teaches an audio system of the musical instrument is a piano (see fig.3, 210).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gibson and Lowe into the teaching of Ashour to provide a audio system having more different instruments for user choice.

Consider claim 23, there is the method claim corresponding to system claim27. See previous system claim 27 rejection.

5. Claims 3, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson (US PAT.5,812,688) as modified by Lowe (US PAT. 5,208,860) as applied to claim 1, above, and further in view of Fujishita (US PAT. 5,666,136).

Consider claim 3, Gibson and Lowe do not clearly teach an audio system of the parameter operator further indicates a value of a room characteristic parameter to determine an acoustic characteristic obtained by a size of a listening room; and the

image display further displays image data in which the size of the room is imaged corresponding to the value indicated for the room characteristic parameter.

However, Fujishita teaches the parameter operator further indicates (see figs. 14a-14b) a value of a room characteristic parameter to determine an acoustic characteristic obtained by a size of a listening room (see figs. 14a-14b); and the image display further displays image data in which the size of the room is imaged corresponding to the value indicated for the room characteristic parameter (see col. 10 line 24-50);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gibson and Lowe into Fujishita to provide method of displaying operation of an audio equipment, comprising the steps of detecting an operated state of a control panel of the audio equipment, and varying an image of an operated portion of an image simulating the control panel.

Consider claim 10, there is the method claim corresponding to system claim 3. See previous system claim 3 rejection.

Consider claim 16, there is the program claim corresponding to system claim 3. See previous system claim 3 rejection.

Response to Arguments

6. Applicant's arguments with respect to claims 1-3, 5-10, 12-16 and 18-31 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that Gibson does not teach that the image display variably displays image data depending on the value of the parameter reflecting the distance

Art Unit: 2643

characteristic parameter designated through the operator display (remarks, page 11, first paragraph).

The examiner's response is that this limitation is now met by the combination of Gibson and Lowe et al, as shown in the rejection of claim 1. Briefly, Gibson teaches that an image display (figs. 4-15) variably displays image data depending on value of a parameter which is designated through the operator display (col.6 line 20-col.7 line13), and Lowe teaches such a parameter reflects a distance characteristic parameter, ie, depends on the distance between the sound source and the listener (figs. 5m, 9-12 and 15 and col.5 line 19 -col.6 line 22). Therefore, the combination would provide an image display variably displays image data depending on value of a parameter which is designated through the operator display and which reflects a distance characteristic parameter / depends on the distance between the sound source and the listener.

Applicant further argued that Fujishita does not teach that the image that are variably displayed depends on the distance between the sound source and the listener (remarks, page 11, third paragraph).

The examiner's response is that Fujishita is not relied on to teach that the image that are variably displayed depends on the distance between the sound source and the listener, which is met by Gibson as modified by Lowe et al, as shown in detail in the rejection of claim 1.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujimori (US PAT. 6,026,169) is cited to show other related the audio system conducting digital signal processing, a control method thereof, a recording media on which the control method is recorded.

8. Any response to this action should be mailed to:

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or faxed to:(703) 872-9306

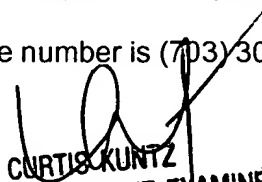
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (703) 305-2259 The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao, Lun-See
Patent Examiner
US Patent and Trademark Office
Crystal Park 2
(703305-2259)


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
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